Safety Health Environment and Welfare Information
Risks listed here are not exhaustive. Refer to the DHEMR document ENVIMSW002194-BMM-XX-000-HS-HS-1102020
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks:

G.01	Construction Operation / Maintenance	Injury or death due to accidental strike of buried or contact with overhead services in proximity to construction or survey works. Refer to services drawings for more information and critical emphasis on identification and locality of utility services.
G.10	Construction / Operation / Maintenance / Decommissioning / Demolition	Long-term illness or death due to exposure to asbestos resulting from intrusive work on existing structures (due to the age of the structure). If asbestos is visually identified then all works must stop and the Client must be informed immediately. The Client is to give instructions on how to proceed.
G.12	Construction	Injury or death due to unstable ground resulting from ground works.
G.17	Construction / Decommissioning / Demolition	Construction site located within a Site of Special Scientific Interest (SSSI). Adverse impact on local fauna or protected species resulting from site works. Requirement for ecological supervision or review of method statements to be informed by licences/permits in place, specific species survey reports and the ecological pre-construction walkover.
G.19	Construction / Decommissioning / Demolition	Injury or death due to UXO strike resulting from intrusive construction or survey works. Refer to UXO risk assessment for mitigation measures in each area. The risk of encountering UXO in Area 3b has been categorised as high risk.
G.22	Construction	Drowning, water-borne diseases, hypothermia, falls in the water or other injury or illness resulting from carrying out work within the tidal zone. Tide levels and times, and speed of incoming/outgoing tides to be reviewed by the Contractor and working hours limited to avoid working in water where possible. Where work is to be undertaken in proximity tidal water, life jackets to be worn and appropriate training undertaken.
G.23	Construction	Working near above ground services (pipelines). Injury or death due to oil or gas leak, potentially leading to explosion, as a result of damage to above ground pipelines. Notify asset owners, submit RAMs, and undertake work adhering to restrictions imposed.
G.50	Construction	Construction adjacent to a live railway (Network Rail Severn Beach Line). Method Statements for construction activities to be agreed with asset owners, with exclusion zones, fencing, and monitoring in place as required.
OSG.01	Construction Operation / Maintenance	Injury or death due to collapse of existing structures resulting from working near/over existing structure. Construction loading over the existing culvert and outfall to be limited to 8 wheeled tipper truck (32t) tracking over the culvert, with a speed limit of 5miles/hour.
OSG.05	Construction	Injury due to construction works. Ensure the construction works are segregated away from the public. Where required divert the public away from the construction works. Robust protection measures to be implemented outside of working hours where the public could look to gain access.
OSSP.01	Construction Operation / Maintenance	Telemetry equipment within the construction site. Injury or death due to accidental strike of buried or contract with overhead services in proximity to construction or survey works. Refer to services drawings for more information.
OSSP.04	Construction Operation / Maintenance	Potential for presence of high concentrations of natural gases (carbon dioxide and methane) at Stupp Pill outfall. Principal Contractor to use PPE appropriate for the task.
OSSP.05	Construction Operation / Maintenance	Potential for contaminated water (exceedances of heavy metals and Polycyclic Aromatic hydrocarbons) within water flowing through the outfall structure. Principal Contractor RAMS to allow for contaminated water, with the use of PPE appropriate for the task.
OSSP.06	Construction	Buried wailing beams and tie rod connecting sheet piles. Prior to any construction work taking place adjacent or over the outfall structure, the buried wailing beams and tie rods should be accurately located to avoid damaging hidden elements of the structure.
OSSP.07	Construction	Injury due to construction works. Care to be taken to not damage the existing outfall structure during the localised demolition. Ensure the construction works are segregated away from the public. Where required divert the public away from the construction works.
OSSP. 08	Construction Operation / Maintenance	Future users of working platform to prepare Temporary Works Plan, confirming the adequacy of the working platform for specific loading requirements prior to undertaking any lifting operations.

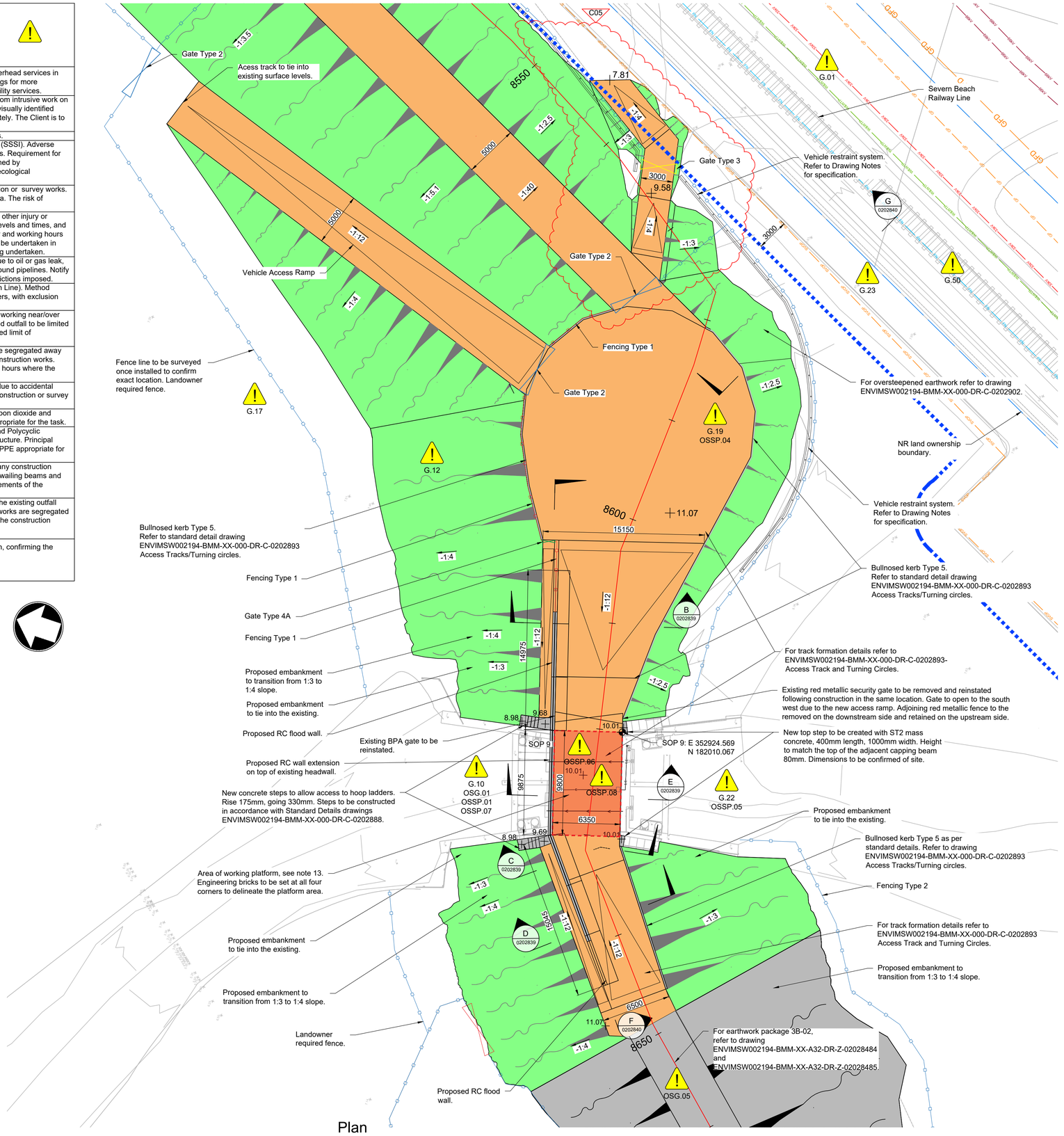
KEY:

WPD - High Voltage 33kV (overhead)	33kV
WPD - High Voltage 66kV (overhead)	66kV
Wales & West - Transmission Pipe	W&WMP
German Fisher duct	GFD
Fibre Optic	FN
Esso Service Pipe	ESSO

Reference drawings:

ENVIMSW002194-BMM-XX-A32-DR-C-0202836-Area 3B (Ch.8+460-8+650) - Stup Pill Outfall - General Arrangement
ENVIMSW002194-BMM-XX-A32-DR-C-0202838-Area 3B (Ch.8+460-8+650) - Stup Pill Outfall - General Arrangement
ENVIMSW002194-BMM-XX-A32-DR-C-0202839-Area 3B (Ch.8+460-8+650) - Stup Pill Outfall - Sections
ENVIMSW002194-BMM-XX-A32-DR-C-0202840-Area 3B (Ch.8+460-8+650) - Stup Pill Outfall - Sections
ENVIMSW002194-BMM-XX-A32-DR-C-0202841-Area 3B (Ch.8+460-8+650) - Stup Pill Outfall - Setting out
ENVIMSW002194-BMM-XX-A32-DR-Z-0202484 - 0202485-Area 3B - (Ch.8+460-8+650) - Earthwork General Arrangement

Standard Details:
ENVIMSW002194-BMM-XX-000-DR-C-0202883-Concrete Mix Design
ENVIMSW002194-BMM-XX-000-DR-C-0202886 Standard Detail Gates
ENVIMSW002194-BMM-XX-000-DR-C-0202887 Standard Detail Fencing
ENVIMSW002194-BMM-XX-000-DR-C-0202888-Steps - Sheet 1 of 2
ENVIMSW002194-BMM-XX-000-DR-C-0202892-Movement Joints
ENVIMSW002194-BMM-XX-000-DR-C-0202893-Access Track and Turning Circles
ENVIMSW002194-BMM-XX-000-DR-C-0202912-Earthworks Specifications Sheet 1 of 2
ENVIMSW002194-BMM-XX-000-DR-C-0202914-Earthworks Specifications Sheet 2 of 2
ENVIMSW002194-BMM-XX-000-DR-C-0202902-Standard Details - Earthwork Sections Sheet 4 of 4



Plan
1:200

Notes

1. All dimensions are in Millimetres unless stated otherwise.
2. All levels are stated in Metres, and relative to ordnance datum. Levels are based on the topographical survey carried out by Texo Drone Survey and Inspection Ltd in December 2019.
3. Contains Ordnance Survey Data © Crown copyright and database rights 2021 Ordnance Survey. All rights reserved. Environment Agency 100026791.
4. All works to be in accordance with the MCHW - Specification for Highway Works.
5. Workmanship and materials in accordance with all relevant current statutory authority requirements, the latest British Standards and Codes of Practice/Eurocodes and UK Annexes and good working practice.
6. Crane to enable maintenance and replacement of the flap valves and penstock can be positioned directly on the outfall. Proposed crane - Kato CR-80C crawler crane (10t), with steel pads to spread the outrigger loads.
7. Vactor unit to enable desilting to be positioned on the level area to the north of the outfall. Proposed Vactor unit - Kilo Whale Vactor unit (26t), allowed to drive over the outfall to reach the turning area. Excavator, ZX85US (10t), to operate directly on top of the outfall.
8. Width restriction of 5m noted over the outfall.
9. An edge protection is required along the turning circle to reduce the risk of vehicle impact onto the fuel lines. This shall comprise an proprietary vehicle restraint system (N1 containment, W3 working width), installed in accordance with the manufacturer's instructions, and with P1 terminals at either end. The extent of VRS shall be confirmed on site.
10. Flood embankment grass (EFG) seeding will be implemented across all earth embankments. In addition to this treatment, 'high pollinator' wildflower seed mix is proposed to the landward slopes. These 100% wildflower mixes will be sown with the EFG mix.
11. EM3F wildflower mix by Emorsgate Seeds (or equal approved) is proposed to be sown at 1.5g/m² in combination with EFG seeding for all landward side embankments.
12. The following seed mixes are subject to agreement with the EA's asset performance team regarding the need for ongoing maintenance. For further details refer to Landscape Specification - Area 1, 2 & 3 (ENVIMSW002194-BMM-XXX-Z000-RPT-L-0302135).
13. The working platform shall be constructed from a 0.5m thick layer of compacted 6F5 selected granular fill with a single layer of Secugrid 40/40 geogrid (or similar approved) installed 0.4m below the top surface. The working platform is designed following the guidance of BRE470 for an applied bearing pressure of 100kPa, which is valid for outrigger pads up to a maximum size of 0.7m x 0.7m. The crane operator shall prepare a Temporary Works Plan and confirm the adequacy of the working platform for their specific loading requirements prior to undertake any lifting operations.

Key to symbols

- Embankment
- Maintenance Access Track / Footpath
- Working Platform
- Boundary of Working Platform
- 3m Offset from Oil Pipeline
- Vehicle Restraint System
- NR Land Ownership Boundary
- Fencing Type 1
- Fencing Type 2
- Gate Type 1
- Gate Type 2
- Gate Type 3
- Gate Type 4A

Key Plan

Rev	Date	Drawn	Description	Ch'k'd	App'd
P01	12/03/21	ER	For Client Acceptance	MC	MS
C01	09/04/21	ER	For Construction	MC	PE
C02	16/06/21	ER	For Construction	MC	MS
C03	05/08/21	TR	For Construction	MC	MS
C04	13/04/22	AN	For Construction	MC	PE
C05	06/06/23	LM	Fisher German Ramp Added	MC	MS

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Client

Bristol City Council
Environment Agency
South Gloucestershire Council

Title

ASEA Ecology & Flood Defence Scheme
Design Package 3B-01
Stup Pill Outfall
Ch. 8+460 to 8+650
General Arrangement Sheet 2 of 3

Designed	M.SILC	MS	Eng check	M.CHEETHAM	MC
Drawn	L.MIKHALKINA	LM	Coordination	M.CHEETHAM	MC
Dwg check	J.POPPERL	JP	Approved	M.D.SECKER	MS

Scale at A1	Status	Rev	Security
1:200	CON	C05	STD

Drawing Number
ENVIMSW002194-BMM-XX-A32-DR-C-0202837

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